



United States
Department of
Agriculture

Forest
Service

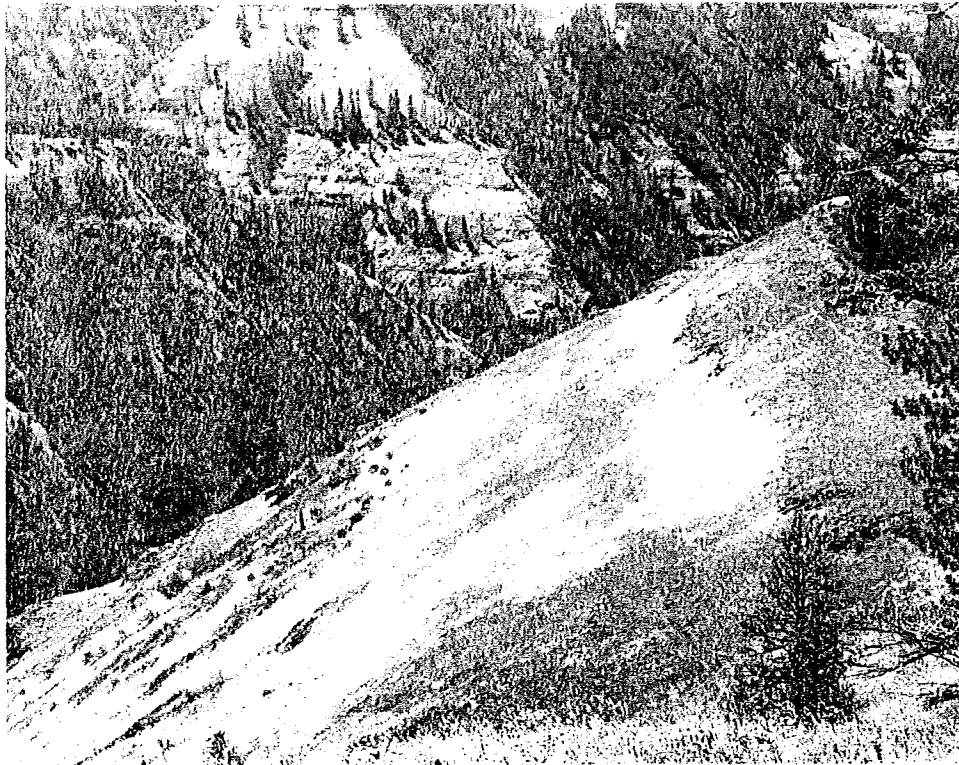
June 2002



Environmental Assessment

Burnt Flats Watershed Rehabilitation

Salmon River and Clearwater Ranger Districts
Nez Perce National Forest
Idaho County, Idaho



Pinnacle Ridge and the South Fork White Bird Creek Breaks

For Information Contact: Kris Hazelbaker
Nez Perce N.F.
Rt. 2 Box 475
Grangeville, ID 83530
208-983-1950
khazelbaker@fs.fed.us

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

TABLE OF CONTENTS

| | |
|--|-----------|
| SUMMARY..... | 1 |
| INTRODUCTION..... | 1 |
| BACKGROUND | 1 |
| DEFINITIONS..... | 1 |
| PURPOSE & NEED FOR ACTION | 3 |
| <i>Proposed Action</i> | 6 |
| DECISION FRAMEWORK..... | 6 |
| PUBLIC INVOLVEMENT..... | 6 |
| ISSUES..... | 7 |
| ALTERNATIVES, INCLUDING THE PROPOSED ACTION..... | 9 |
| ALTERNATIVE 1 – NO ACTION..... | 9 |
| ALTERNATIVE 2 – PROPOSED ACTION..... | 9 |
| ALTERNATIVE 3 | 10 |
| ALTERNATIVES CONSIDERED BUT DROPPED | 14 |
| MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES..... | 14 |
| COMPARISON OF ALTERNATIVES | 15 |
| ENVIRONMENTAL CONSEQUENCES..... | 16 |
| PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS | 16 |
| WATERSHED | 19 |
| <i>Sediment Yield</i> | 19 |
| <i>Road/Water Interactions</i> | 20 |
| <i>Water Quality – Toxics</i> | 21 |
| FISHERIES..... | 22 |
| <i>Aquatic Species Listed Under the Endangered Species Act (ESA)</i> | 22 |
| <i>Sensitive Species</i> | 23 |
| RECREATION USES..... | 28 |
| SOILS | 29 |
| TRANSPORTATION SYSTEM | 32 |
| WILDLIFE | 35 |
| THREATENED, ENDANGERED, AND SENSITIVE PLANTS..... | 38 |
| HERITAGE RESOURCES..... | 39 |
| PHYSICAL, BIOLOGICAL AND SOCIAL FACTORS NOT ANALYZED IN DETAIL | 41 |
| CONSULTATION AND COORDINATION | 43 |
| REFERENCES..... | 44 |

SUMMARY

The Nez Perce National Forest proposes to decommission 8-15 miles of road, improve stability on 5-20 miles of road, and replace the existing bridge on Road 642 over the South Fork White Bird Creek all within or adjacent to the Burnt Flats Fire area. The project area is located in the White Bird Creek watershed on the Salmon River and Clearwater Ranger Districts, Nez Perce National Forest, Idaho. This action is needed because watershed conditions have deteriorated due to direct and indirect effects of the Burnt Flats Fire in 2000.

The proposed action would improve the watershed and its fish habitat by decreasing sediment production, improving watershed connectivity, and reducing water interception/diversion from road prisms within or directly affecting the burn area. Road management options being considered include obliteration or recontouring, surface and drainage improvements, bridge and culvert replacement, and additional seasonal travel restrictions. The final decision must balance the need to improve watershed conditions with the need to maintain an adequate transportation system for administrative needs and recreational uses.

This Environmental Assessment documents the environmental effects of the proposed action along with the effects of 1) no action, and 2) a more aggressive approach targeting more roads for decommissioning or improvement.

Based on a review of the effects of the three alternatives, the responsible official will decide whether to proceed with the proposed action or one of the other alternatives. If an action alternative is selected, the responsible official will include required mitigation and monitoring requirements in the decision document. The responsible official will also determine whether a Forest Plan Amendment is required for implementation.

INTRODUCTION

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- *Introduction: The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.*
- *Comparison of Alternatives, including the Proposed Action: This section provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.*
- *Environmental Consequences: This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource area. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the alternatives that follow.*
- *Agencies and People Consulted: This section provides a list of preparers, as well as agencies we consulted during the development of the environmental assessment.*
- *Appendices: The appendices provide more detailed information to support the analyses presented in the environmental assessment.*
- *Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Salmon River Ranger District Office in White Bird.*

Background

In August 2000, the Burnt Flats Fire burned about 20,000 acres, mostly in the White Bird Creek watershed. Of the total acres, about 13,000 were on Nez Perce National Forest lands. Fire suppression efforts included opening many roads that had grown-in and stabilized, and considerable heavy truck traffic on roads within and adjacent to the fire perimeter. The White Bird watershed was below Forest Plan objectives for fish habitat before the fire. The additional disturbance from the fire and fire suppression activities aggravated the disrupted hydrologic conditions, produced more sediment, and posed a risk of further degrading water quality and fish habitat.

Definitions

The following terms are being defined for use within this document. They are intended to help the reader have clearer understanding of project work and associated benefits. Definitions are specific to this document and may differ from other publications.

Decommission: Activities that result in the stabilization and restoration of unneeded roads to a more natural state.

Hillslope Hydrologic Processes: Hillslope hydrologic processes include infiltration, groundwater flow, vegetative interception, transpiration, surface flow, and evaporation. Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural flowpaths. These changes in routing can result in increases in peak flows by both volumetric increase in quickflow and changes in the timing of storm runoff to streams (Wemple et al., 1996).

Hydrologic Connectivity: Level or degree of roads having a continuous surface flow path between any part of the road prism and a natural stream channel including gully, and cross drain channels (Furniss et al., 2000).

Hydrologic Function: Hydrologic processes function to transport, and store water, as well as filter it. Roads may affect these functions. Water normally stored in soil on a hillside providing high-quality plant habitat, may be intercepted and transported downstream resulting in a drier growing site. Hydrologic function may be altered spatially or temporally.

Ripping and Decompacting: Involves reducing the soil density to a depth up to 12 inches to allow for improved drainage, water infiltration, and plant growth.

Recontouring: This involves pulling some or all of the road fill material (on the downhill side of the road) up onto the road, placing it against the cutslope. The purpose is to restore the slope of the hill to a condition similar to before the road was constructed. The road surface to be covered is generally decompacted prior to placing fill material on top of it. Limited recontouring involves recontouring the road in key spots to address specific concerns.

Purpose & Need for Action

The purpose of this project is to reduce sedimentation and risk of failure of the existing road system, and so improve watershed conditions that have deteriorated due to direct and indirect effects of the Burnt Flats Fire in 2000. Even before the fire, the White Bird Creek watershed was below Forest Plan fish habitat quality objectives. The fire and associated activities resulted in additional hydrologic disturbance. White Bird Creek is high priority habitat for spring chinook salmon and steelhead trout, both listed under the Endangered Species Act. Specific Forest Plan objectives are described in Forest Plan Appendix A and Forest Plan Amendment 20. They are summarized in Table 2, on page 5 of this document. The National Marine Fisheries Service Biological Opinion on the Forest Plan, and our ongoing consultation on Threatened and Endangered species provide additional direction.

Water quality limited streams in the project area include Pinnacle Creek and Little White Bird Creek (State of Idaho, 303 (d) list, 1998.). These streams are listed as Water Quality Limited Segments (WQLS). Sediment is listed as the pollutant of concern.

Detailed road surveys were completed in the summer of 2001. These surveys provide preliminary identification of water/road interactions. The following table summarizes some of that data.

Table 1. Field Survey Summary Table

| ROAD NUMBER | Alternative | Impacts: Surface Erosion | Impacts: Mass Wasting | Impacts: Hillslope Hydrologic process | Impacts: Riparian Encroachment | Impacts: Hydrologic Connectivity |
|-------------|-------------|--------------------------|-----------------------|---------------------------------------|--------------------------------|----------------------------------|
| 221J | 2,3 | | | | Y | |
| 243A | 2,3 | | | | Y | |
| 243A1 | 2 | | | | | |
| 479F | 3 | | | | | |
| 479 | 2 | | | | | |
| 642A | 3 | | Y | Y | Y | |
| 642 | 2,3 | | | | | |
| 1112B | 2 | | Y | Y | | |
| 1112B1 | 2,3 | Y | | | | |
| 1112C | 3 | Y | | | | |
| 1112C1 | 2 | | | | | |
| 1112C2 | 3 | | | | | |
| 1112C4 | 2 | | | | | |
| 1856B | 3 | | | Y | | Y |
| 1856D | 3 | Y | | | | |
| 1856 | 2,3 | | | | Y | |
| 1870 | 2 | | | | | |
| 9301 | 2,3 | Y | Y | Y | Y | Y |

| ROAD NUMBER | Alternative | Impacts: Surface Erosion | Impacts: Mass Wasting | Impacts: Hillslope Hydrologic process | Impacts: Riparian Encroach | Impacts: Hydrologic Connectivity |
|-------------|-------------|--------------------------|-----------------------|---------------------------------------|----------------------------|----------------------------------|
| 9302A | 3 | Y | | Y | Y | Y |
| 9323A | 2 | | | | | |
| 9323C | 2 | Y | | | | |
| 9340 | 2 | | Y | Y | | |
| 9341 | 2,3 | Y | Y | Y | Y | Y |
| 9347A | 2 | | | | | |
| 9347 | 2 | | | | | |
| 9419 | 3 | | | | Y | |
| 9443 | 2,3 | | | | | |
| 76254A | 3 | Y | Y | | | |
| 76254 | 3 | Y | Y | Y | | |
| 76255A | 3 | Y | Y | Y | | Y |
| 76255A1 | 3 | | | | | |
| 76255A3 | 3 | Y | | | | |
| 76255A4 | 3 | | Y | | | |
| 76255 | 3 | Y | Y | Y | | |
| 76258 | 2 | | | | | |
| 76259 | 2 | | | | | |
| 76260 | 2 | | | | | |
| 76261 | 2 | | | | | |
| 76262 | 2 | | | | | |
| 76263 | 2 | | | | | |
| 76264 | 2 | Y | | Y | | Y |
| 76402 | 3 | | | Y | | Y |
| 76407 | 3 | | Y | | | |
| 76421 | 3 | Y | | Y | | |
| 76424 | 3 | Y | Y | Y | Y | |
| 76425 | 3 | | | Y | | Y |
| 76427 | 3 | Y | Y | Y | Y | |
| 76680 | 3 | | Y | Y | Y | |
| 76738 | 2 | | | | | |
| 76739 | 2,3 | | Y | Y | | Y |
| 76740 | 2 | | | | | |
| 103174A | 3 | | Y | Y | | |

Appendix A of the Nez Perce Forest Plan lists fish/water quality objectives by prescription watershed. The objectives and sediment yield guidelines are summarized below.

Table 2. Forest Fish/Water Quality Objectives for Prescription Watersheds in the Burnt Flats Analysis Area

| Prescription Watershed | Beneficial Use | Current Fish Habitat Potential (%) | Fish/Water Quality Objective (%) | Sediment Yield Guideline (% over base) | Entry Frequency Guideline |
|-------------------------------|-----------------------|---|---|---|----------------------------------|
| North Fork White Bird | Anadromous fish | 90 | 90 | 30 | 1 |
| Goose | -- | -- | 70 | 60 | 3 |
| Fish | Resident fish | 90 | 70 | 60 | 3 |
| Pinnacle | Anadromous fish | 60 | 90 | 30 | 1 |
| South Fork White Bird | Anadromous fish | 90 | 90 | 30 | 1 |
| Little White Bird | Anadromous fish | 65 | 80 | 35 | 2 |

Over the last 30 years, many researchers have analyzed the environmental impacts of logging roads. Most recent research examines specific questions about how roads affect hydrology. Wemple (1996) describes how roads impair hydrologic function. Wemple cites multiple studies examining road construction's "effects on hydrologic and geomorphic processes, including increased rates of surface erosion and landsliding, changes in peak flow magnitude, and attendant impacts on stream sedimentation and channel morphology." These interactions can be complex. Three of the more common interactions include interception of shallow subsurface flow, linking roads to existing stream channels, and reduced precipitation infiltration. Changing naturally subsurface flow to surface flow, restricting the amount of precipitation that infiltrates to the subsurface and linkage to existing stream channels creates a situation of increased hydrologic connectivity; roads are acting as extensions of stream channels (Reid and Dunne, 1984; Luce and Cundy, 1994) (Megahan, 1972; Sullivan and Duncan, 1981). Where hydrologic connectivity exists the length of peak flows can increase, timing of peak flows can change, runoff volume can increase, and sediment production can increase.

Road decommissioning serves to reduce many of the problems identified above. The levels of decommissioning can vary based on the degree of impact a segment of road has on the watershed's hydrologic function. Generally, road decommissioning improves hydrologic function through the following ways: decompacting road surfaces increases infiltration, reduces hydrologic connectivity, re-establishes groundwater flow pathways, and promotes revegetation, eventually restoring vegetative interception and transpiration processes. Collectively these processes can be termed 'hydrologic function'. All of the above mentioned benefits serve to reduce sediment production, decrease landslide or

channel crossing failure risks, restore timing and volume of peak flow events, and mitigate changes to downstream channel morphology.

Aquatic processes and conditions, primarily stream/riparian function and sediment regimes, have been altered from historic levels. Roding has impacted the watershed by causing changes in the sediment regime (principally increased surface erosion), changes in surface water concentration and discharge, and constricting channels in sections of the watershed. Currently there are approximately 291 miles of road within the White Bird watershed on Federal lands, or 4.2 miles of road per square mile. These roads have contributed to an increase in the modeled sediment yield of 4.5% over the natural base.

Proposed Action

We propose to decommission 8-15 miles of road, improve stability on 5-20 miles of road, convert about 5 miles of road to motorized trail, and replace the existing bridge on Road 642 over the South Fork White Bird Creek all within or adjacent to the Burnt Flats Fire area. This proposal would improve the watershed and its fish habitat by decreasing sediment production, improving watershed connectivity, and reducing water interception/diversion from road prisms within or directly affecting the burn area. Road management options being considered include obliteration or recontouring, surface and drainage improvements, conversion to trail, bridge and culvert replacement, and additional seasonal travel restrictions. The final decision must balance the need to improve watershed conditions with the need to maintain an adequate transportation system for administrative needs and recreational uses.

Decision Framework

Given the purpose and need, and a review of the effects of the three alternatives, the responsible official will decide whether to proceed with the proposed action or one of the other alternatives. If an action alternative is selected, the responsible official will include required mitigation and monitoring requirements in the decision document. The responsible official will also determine whether a Forest Plan Amendment is required for implementation.

Public Involvement

The proposal was listed in the Nez Perce National Forest Schedule of Proposed Actions for the second quarter, 2002. The proposal was provided to the public and other agencies for comment during scoping from April 22 through May 24, 2002. In addition, as part of the public involvement process, the agency distributed a press release outlining the project and requesting comments, and sent a letter describing the project to the Nez Perce Tribal Executive Committee.

Using the comments from the public, other agencies, Forest specialists, and the Nez Perce Tribe (see *Issues* section), the interdisciplinary team developed a list of issues to address.

Issues

Significant issues are defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council for Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of non-significant issues and reasons for their categorization as non-significant may be found in the project record.

The Forest Service identified 12 concerns raised during scoping. Some were used to develop an alternative to the proposed action. These include:

1. Road condition surveys show few roads with major watershed concerns taken individually. There are **numerous roads with smaller needs, which cumulatively raise a concern for overall watershed condition.**
2. **Turbidity, sediment production, and sediment delivery** can also be harmful to aquatic organisms and degrade fish habitat. Project work may lead to sediment production, sediment delivery, and turbidity, all of which can be harmful to fisheries and aquatic habitat.
3. Roads modify the **natural infiltration of water** into the soil and normal stream channel development. Specifically: extent and method of work may impact how water is intercepted by the road system. Extent and method of work may impact the long-term condition of tributary stream crossings.
4. Watershed conditions create a concern for **fish habitat conditions**, which are below standard.
5. Recreation issues include **access to groomed snowmobile trails and ATV routes.**
6. Retaining adequate **access for land management activities** (Silviculture, fire management, grazing management) is a concern.

Others were used to compare the effects of the alternatives. These include:

1. **Soil productivity** is generally reduced through road construction. Decommissioning these roads would influence the future productivity of these lands.
2. The primary **wildlife concern is security** in this area with considerable access via old road systems.

Others led to development of mitigation measures. They include:

1. Effects on **noxious weed populations** are a concern here where the fire disturbance has created ample opportunity for expansion of weeds.

2. Effects on **sensitive plant populations** are a concern.
3. Effects on **heritage resource sites** are a concern.
4. **Introduction of petroleum products to streams** and other water sources is extremely harmful for aquatic species as well as other living organisms.

Another concern was raised relative to the cost of maintaining the current road system. This Forest-wide issue is beyond the scope of this analysis. Intuitively, any reduction in road miles would reduce the overall cost of road maintenance. The size of the proposal is too small to be compared to the total road maintenance workload on the forest.

Indicators that will help us compare the effects of each alternative on these resource issues are:

Water Quality

- Surface erosion reduction
- Mass erosion risk reduction
- Hillslope hydrologic process improved
- Riparian areas improved
- Hydrologic connectivity associated with roads reduced

Fish Habitat

- Habitat improved

Recreation

- Snowmobile and ATV routes available

Soils

- Acres of soil decompacted
- Road density (by watershed)

Wildlife

- Change in road density (by planning area)
- Miles of open road

Plants

- Successful avoidance of existing populations

Noxious Weeds

- Potential for expansion

General Forest Access

- Access needs met

Heritage Resources

- Successful avoidance of existing sites

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Burnt Flats Watershed Rehabilitation project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, defining the differences between each alternative and providing a basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative (i.e., completely obliterate a road or decommission the road to trail status) and some of the information is based upon the environmental, social, and economic effects of implementing each alternative (i.e., surface erosion reduced or acres of soil decompacted).

Alternative 1 – No Action

Development of this alternative is according to Forest Service Handbook 1909.15 (23.1) and the Council on Environmental Quality Regulations (40 CFR 1502.14 (d)), and continues current management in the area in compliance with the Forest Plan.

The no action alternative would keep the existing roads in place and would continue the current level of maintenance which includes inspection and clearing of existing culverts. This alternative would not preclude future options for needed repair. The No Action Alternative provides a base line for estimating the effects of other alternatives.

Alternative 2 – Proposed Action

The proposed action is to completely decommission 11 miles of road, convert 4.5 miles from road to motorized trail status, and improve sections of six roads within the fire area, including replacing the bridge on Road 642 over the South Fork White Bird Creek, in order to improve hydrologic integrity in the Burnt Flats Fire area. This scope of project was originally proposed for National Fire Plan funding following the Burnt Flats Fire.

Our proposal for specific roads is as follows:

Table 3. Proposed Action, Alternative 2

| Road Number | Decommission Length | Proposed Treatment |
|-------------|---------------------|--|
| 221J | 0.9 miles | Recontour, remove culverts. |
| 243A | 0.1 mile | Improve creek crossing, recontour last 0.1 mile |
| 243A1 | 0.2 mile | Rip and decompact. |
| 479 | | Improve culverts at creek crossings (4 crossings) |
| 642 | | Replace bridge over S. Fk. White Bird Cr., improve culvert at Little White Bird Cr. crossing |

| Road Number | Decommission Length | Proposed Treatment |
|---------------|---------------------|---|
| 1112B | 1.0 | Limited recontouring, at road junctions. |
| 1112B1 | 1.0 | Limited recontouring, at road junctions. |
| 1112C1 | 1.0 | Limited recontouring, at road junctions. |
| 1112C4 | 0.6 | Limited recontouring, at road junctions. |
| 1856 | | Improve drainage, replace surface gravel |
| 1870 | 1.5 miles | From jct. with 9341 to end, decommission to trail status by installing water bars and controlling access. Remainder, improve drainage and replace rock. |
| 9301 east end | 1.5 miles | Recontour to motorized trail status. |
| 9301 west end | 1.5 miles | Recontour to motorized trail status, remove creek crossing on Little White Bird Creek. |
| 9301 central | | Replace gravel. |
| 9323A | 0.1 mile | Rip and decompact. |
| 9323C | 0.8 miles | Limited recontouring. |
| 9340 | | Improve drainage, replace surface gravel |
| 9341 | 0.8 mile | Recontour |
| 9347 | 0.9 mile | Decompact, rip, limited recontouring. |
| 9347A | 0.1 mile | Recontour. |
| 9443 | 1.3 miles | Recontour. |
| 76258 | 0.1 | Rip and decompact. |
| 76259 | 0.3 | Rip and decompact. |
| 76260 | 0.4 | Rip and decompact. |
| 76261 | 0.2 | Rip and decompact. |
| 76262 | 0.1 | Rip and decompact. |
| 76263 | 0.3 | Rip and decompact. |
| 76264 | 0.2 | Rip and decompact. |
| 76738 | 0.2 | Limited recontour at road junctions. |
| 76739 | 0.2 | Limited recontour at road junctions. |
| 76740 | 0.2 | Limited recontour at road junctions. |

Alternative 3

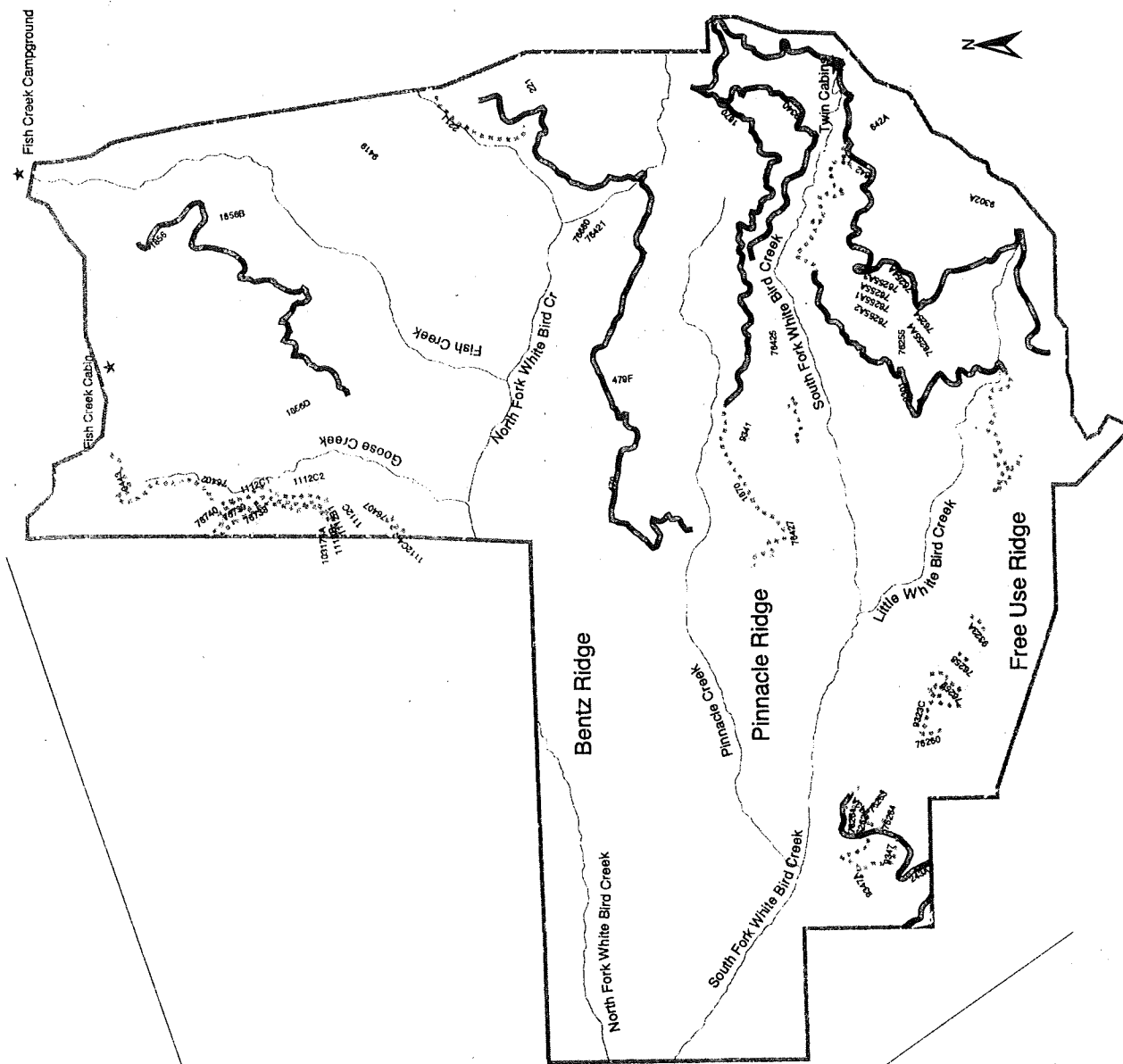
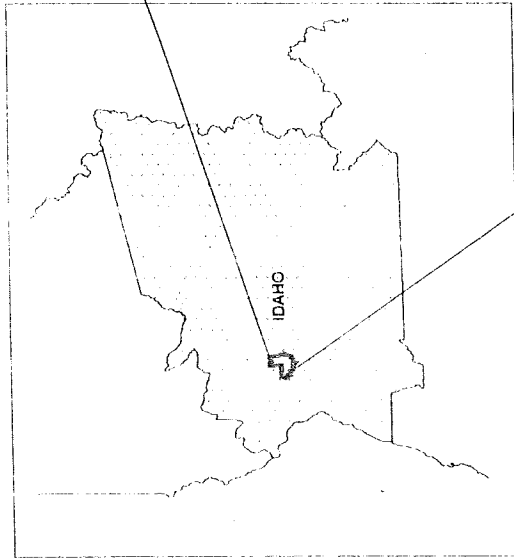
The roads analysis we completed for this area shows that about 70 miles of road in the watershed have associated watershed concerns due to proximity to stream channels, location on landslide prone landforms, surface erosion, number of stream crossings, interruption of hillslope processes, and impacts to hydrologic connectivity. (The roads analysis can be found in the project file.) About half of these roads are also needed for recreation, fire management, grazing administration, silvicultural treatments, or general forest access.

This alternative proposes treating the roads that contribute the most to watershed concerns. Sections of 13 roads would be improved, and 15 miles of road would be decommissioned. The specific routes involved are:

Table 4. Alternative 3

| Road Number | Decommission Length | Proposed Treatment |
|--------------------|----------------------------|---|
| 221J | 0.9 | Recontour. |
| 243A | 0.1 | Improve drainage. Recontour last 0.1 mile. |
| 479F | | Improve 2 stream crossings. |
| 642 | | Replace bridge over S. Fk. White Bird Creek. Improve culvert at Little White Bird Creek crossing. |
| 642A | 1.5 | Remove log culvert and stabilize stream crossing. |
| 1112B1 | 1.0 | Limited recontouring at road junctions. |
| 1112C | | Improve drainage. |
| 1112C2 | | Stabilize failed cut and fill slopes |
| 1856 | | Improve drainage & stream crossing, replace surface gravel. |
| 1856B | | Improve drainage. |
| 1856D | | Improve drainage. |
| 9301 | | Improve drainage & stream crossings, middle section. |
| 9301 | 3.0 | Recontour east and west ends. |
| 9302A | | Improve drainage & stream crossings. |
| 9341 | | Repair three failures. |
| 9341 | .8 | Recontour end of road |
| 9419 | | Improve drainage where road encroaches on stream. |
| 9443 | 1.4 | Recontour. |
| 76254 | 1.0 | Limited recontouring. |
| 76254A | 0.1 | Limited recontouring. |
| 76255 | 0.5 | Limited recontouring. |
| 76255A | 0.4 | Limited recontouring. |
| 76255A1 | 0.2 | Limited recontouring. |
| 76255A3 | 0.2 | Limited recontouring. |
| 76255A4 | 0.2 | Limited recontouring. |
| 76402 | .62 | Limited recontouring. |
| 76407 | .21 | Limited recontouring. |
| 76421 | .32 | Limited recontouring. |
| 76424 | .28 | Recontour. |
| 76425 | .57 | Recontour. |
| 76427 | 1.8 | Recontour. |
| 76680 | 0.6 | Limited recontouring. |
| 76739 | .42 | Recontour. |
| 103174A | 0.4 | Recontour. |

Alternative 2



| Ref. No. | Action |
|----------|--------------|
| 2217 | Decommission |
| 243A | Improve |
| 243A | Decommission |
| 243A1 | Decommission |
| 479 | Improve |
| 642 | Improve |
| 11128 | Decommission |
| 111281 | Decommission |
| 1112C1 | Decommission |
| 1112C4 | Decommission |
| 1856 | Improve |
| 1870 | Improve |
| 1870 | Decommission |
| 3301 | Decommission |
| 3301 | Decommission |
| 3301 | Improve |
| 3321A | Decommission |
| 3321C | Decommission |
| 3340 | Improve |
| 3341 | Decommission |
| 3347 | Decommission |
| 3347A | Decommission |
| 3443 | Decommission |
| 76258 | Decommission |
| 76259 | Decommission |
| 76260 | Decommission |
| 76261 | Decommission |
| 76262 | Decommission |
| 76263 | Decommission |
| 76264 | Decommission |
| 76738 | Decommission |
| 76739 | Decommission |
| 76740 | Decommission |

Legend

- Major Streams
- Landmarks
- Alternative 2
- Decommission
- Improve
- Existing Road Inventory
- Boundary

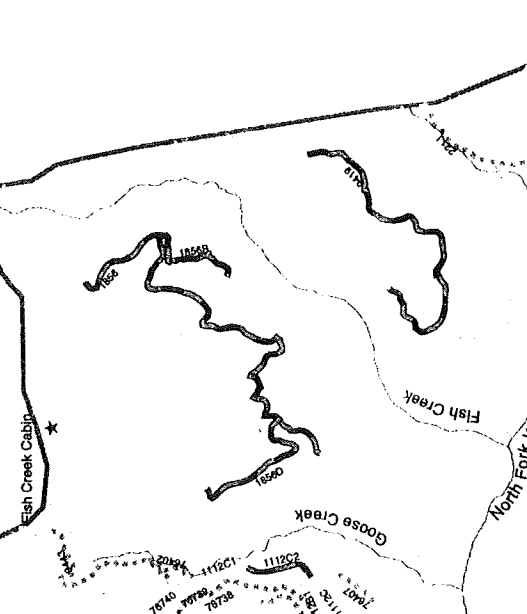
Scale - 1:80000

6 Miles

3

0

Fish Creek Campground



2

6 Miles

6 Miles

6 Miles

Alternatives Considered But Dropped

After the roads analysis was completed, the interdisciplinary team considered an alternative that would treat all of the roads with an identified watershed concern (see IDT notes in the project file). These totaled about 70 miles of road. However, funding to do that much work is not available, and an analysis at that scale would have taken quite a bit longer to complete. So, in order to be able to get rehabilitation work done on some of the most pressing needs, we chose to limit the scope of this analysis to about the size originally proposed. As funding becomes available, more of the roads identified in the roads analysis can be considered in the future.

Mitigation Measures Common to All Action Alternatives

The following mitigation measures would be required for implementation of all action alternatives.

1. Construction – Removal of culverts in live streams on National Forest would require the implementation of several standard construction practices to reduce sedimentation.
 - Live water sites would be dewatered during construction activities.
 - Instream sediment traps would be installed below each culvert removal site to catch sediment from the construction.
 - The slopes adjacent to the streams would be sloped to approximate the natural contour, seeded, and mulched.
 - Seed mix would be selected by District Resource specialists, and include native seeds. Mulch would be certified weed-seed free.
 - Natural regeneration of shrubs and trees would be supplemented as necessary with plantings.
 - Available slash and downed logs would be placed on the disturbed soil to reduce erosion, except in areas a trail is to be maintained.
2. A spill prevention and control plan approved by the contracting officer would be required for handling and storage of petroleum products.
 - Any storage of petroleum products in excess of 200 gallons would be within containment structures with an impervious liner of volume equal or larger than the storage container. The containment structure would be located more than 100 feet from live water.
 - Fuel or other toxic material storage would be prohibited within the riparian habitat conservation area.
 - No waste disposal of petroleum products would be permitted on National Forest lands.
3. Areas of disturbance would be seeded and mulched immediately upon completion of work in that area. Effectiveness of this mitigation would be monitored and areas would be reseeded and mulched as needed.

4. All equipment used in the site work activities would be thoroughly washed before entering the National Forest to mitigate the potential for introduction of noxious weeds.
5. Construction activities near live water where the fisheries biologist determines there is a potential for direct effects to listed fish would be restricted to the period July 1 through August 15, to reduce impacts to spawning fish and incubating eggs.
6. Heritage resource mitigation measures:
 - Avoidance: Where possible, historic properties should be avoided (no project activities performed here, with an adequate buffer zone around the site) so the resource can be preserved and protected in its current state. The site type may dictate the type of avoidance required depending upon the proposed activity, e.g. restricted access vs. road decommissioning. Restricting access to an area where a site is located may be a form of avoidance implemented for certain sites.
 - Data Recovery: If project activities are such that avoidance is not possible, mitigation would be performed for a significant site. Subsurface archaeological excavation or some other form of highly intensive documentation may be needed. This would be determined on a case-by-case basis depending on the site, where it is located, and the proposed activity for that area.
 - Monitoring: Where avoidance is not possible and after other mitigation measures have been implemented (such as data recovery), monitoring of project work during implementation may be needed. An archaeologist, on a case-by-case basis, as needed, would perform the monitoring.
7. Mitigation for sensitive plants: Where full recontouring of roads and road improvements overlap with sensitive plant species, appropriate protection measures, including avoidance or changes in design specifications at certain locations, would be implemented. These areas would be identified in the field before implementation.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 5. Comparison Chart.

| Comparison Item | Alternative 1 | Alternative 2 | Alternative 3 |
|-----------------|---------------|--------------------|---------------------|
| Surface Erosion | No Change | Treated on 5 roads | Treated on 14 roads |
| Mass Erosion | No Change | Treated on 5 roads | Treated on 14 roads |

| Comparison Item | Alternative 1 | Alternative 2 | Alternative 3 |
|---|-----------------------------|---|---|
| Hillslope Process Impact | No Change | Treated on 6 roads | Treated on 16 roads |
| Riparian Impact | No Change | Treated on 5 roads | Treated on 11 roads |
| Hydrologic Connectivity Impact | No Change | Treated on 4 roads | Treated on 8 roads |
| Available fish habitat | No Change | 2 sites improved for resident fisheries | 2 sites improved for resident fisheries |
| Groomed snowmobile trail miles | No Change | No Change | No Change |
| ATV routes available | No Change | 4.5 miles more | 1.5 miles less |
| Soil decompacted | No Change | 40 acres | 55 acres |
| Change in road density (by watershed) | Current 4.5 mi./square mile | 4.08 mi./square mile | 4.01 mi./square mile |
| Change in road density (by planning area) | Current 3.6 mi./square mile | 3.33 mi./square mile | 3.22 mi./square mile |
| Miles of open road | No Change (25 mi.) | 24 miles | 24 miles |
| Heritage sites impacted | None | None | None |

ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for the comparison of alternatives presented in the chart above.

Past, Present, and Reasonably Foreseeable Actions

Activities that have been completed, are ongoing, or reasonably foreseen, that are directly related to the Burnt Flats Fire include:

- Tree planting – 260 acres were planted in 2001, 65 acres in 2002, 580 acres planned for 2003.
- Shrub planting – This focused on riparian/streamside rehabilitation.
- Weed control – Small-scale manual treatments have been done, and an EIS is being prepared for more extensive weed treatment.

- Grazing management – Grazing use was modified to allow vegetation to recover from the fire.
- Salvage harvest – This project was recently approved for implementation.
- Burned Area Emergency Rehabilitation work – This was completed immediately after the fire and included water bar installation, fire line rehabilitation, seeding and mulching, and shrub planting.

Past Activities

Activities include **timber harvest**, utilizing various harvest prescriptions, logging methods, and associated **site preparation**, using mechanical and burning treatments to reduce slash. Following site preparation, **reforestation** of harvested areas occurred and as plantations aged, maintenance activities such as **rodent control**, **thinning** and **pruning** have occurred.

Harvest activities began very early in the 1900s. Some level of timber harvest has occurred on approximately 5,800 acres within the analysis area. Some acres represent more than one harvest entry. Timber harvest has modified the structure, composition, and distribution of vegetation, influenced stream channel morphology, and modified wildlife habitats. Timber harvest has also occurred on State and private land adjacent to the analysis area.

Extensive **road construction** to facilitate logging and mining has occurred over the last sixty years, with little decommissioning. Over the years, roads have received various levels of **maintenance and reconstruction**. In addition, a number of roads were reconstructed as a part of the Burnt Flats fire suppression efforts.

Currently, there are approximately sixteen miles of **maintained system trail** within the analysis area. Like roads, these trails receive varying levels of annual maintenance.

Grazing has occurred in the analysis area since before establishment of the National Forest. Currently, approximately 400 cow/calf pairs utilize the White Bird allotment. The decision resulting from this analysis would not affect previous decisions made for allotment management in the project area. Fences for grazing management were replaced after the Burnt Flats Fire.

Fire suppression has occurred for almost 100 years within the planning area. The Burnt Flats wildfire occurred in the summer of 2000.

Ground disturbances, habitat alterations, and use pressures (human and animal) within the analysis area have resulted in the **increased presence of exotic plant species**. Designated noxious weeds present in the analysis area include Canada thistle, spotted knapweed, and yellow starthistle. Other invasive exotic weeds include sulfur cinquefoil and cheatgrass. Recent management-initiated eradication or control efforts on newly invading species include using herbicide spot treatments followed with grass seeding.

Biological control agents for yellow starthistle (*Eustenopus villosus*) and for spotted knapweed (*Larinus minutus*) are being released on areas adjacent to the analysis area.

Present and On-Going Activities

The Burnt Flats Salvage Timber Sale has been approved for implementation. The sale is currently advertised, and bid opening is scheduled for June 12, 2002. An additional 580 acres of the Burnt Flats Fire area is scheduled for reforestation in 2003.

Timber stand maintenance, including precommercial thinning and gopher control, would continue in young plantations in the analysis area.

Road maintenance is an on-going activity occurring in variable amounts annually. Maintenance activities include grading, drainage repair (ditch line and culverts), brushing, and repair of fill and cut slope failures.

The Free Use Road is located along the southern perimeter of the analysis area. The Cabin Creek Road is located along the northern edge of the analysis area. The Grangeville-Salmon and Twin Cabins Roads are located along the eastern perimeter. During the winter months, these routes are groomed for snowmobile travel.

Trail maintenance is an on-going activity occurring annually. Maintenance activities include drainage repair, brushing, and repair of tread failures.

Monitoring of grazing allotments in recent years has resulted in changed management practices to reduce streamside and riparian impacts from grazing. This monitoring and adaptive management continues today.

Fire suppression occurs whenever a wildfire occurs.

Exotic plant species are managed annually. Emphasis is on aggressive eradication of new invaders and development of a containment strategy for widely established invasive weeds. There is less emphasis to species that are less invasive. The less emphasized species of concern are moved to a higher priority if satellite populations are discovered. The exotic weed management on the landscape scale is adaptive in approach.

Reasonably Foreseeable Activities

In addition to stand maintenance activities, only the harvest, site preparation, reforestation, and stand maintenance activities associated with the Burnt Flats Salvage project proposal are reasonably foreseeable on federal lands.

The road maintenance and snow grooming activities would continue into the future.

Maintenance activities are the only reasonably foreseeable trail related activities.

Minor changes in grazing allotment management would continue to take place based on monitoring results.

Fire suppression would continue to occur in this area.

The current on-going program of noxious weed management, including spot spraying of herbicides, would continue under Salmon River Weed Management Area direction, and would include areas disturbed as a result of the Burnt Flats Salvage project proposal.

Watershed

Sediment Yield

The term sediment yield refers to the total sediment outflow over time from a catchment basin, in this case, the White Bird Watershed (Gordon et al., 1992). It is typically expressed as tons per year or percent over base (synonymous with percent over natural). The Burnt Flats Salvage Environmental Assessment modeled sediment yield for White Bird Creek Watershed and the results are shown below (USDA Forest Service – Nez Perce National Forest, 2002). The Burnt Flats Fire and logging occurred on State of Idaho lands in the year 2000. Recovery is shown from year 2001 in this display. The 'Post Activity' column displays long-term sediment, mostly associated with the existing roads of the watershed.

Most of the burned area is on soils developed from basalt, with relatively low erosion hazard compared to granitic-derived soils. There is some concern that the factors used by NEZSED to calculate sediment production in basalt may underestimate sediment production (Nick Gerhardt, personal communication).

Table 8. Existing Routed Sediment Over Natural Production

| Watershed | Acres | Forest Plan Guide | 2000 Percent Over Natural | 2001 Percent Over Natural | Post Activity Percent Over Natural |
|--------------------------------|--------|-------------------|---------------------------|---------------------------|------------------------------------|
| Goose Creek | 3,023 | 60% | 40.6% | 15.0% | 11.5 % |
| Fish Creek | 5,757 | 60% | 2.0% | 0.5% | 0.2 % |
| North Fork White Bird drainage | 21,107 | 30% | 17.2% | 7.9% | 2.7 % |
| | | | | | |
| Pinnacle | 2,518 | 30% | 15.5% | 3.4% | 0.1 % |
| Little White Bird | 3,425 | 35% | 16.9% | 6.8% | 4.0 % |
| South Fork White Bird drainage | 22,938 | 30% | 21.7% | 9.5% | 6.3 % |
| | | | | | |
| White Bird Creek totals | 44,045 | No guideline | 19.4% | 8.7% | 4.5 % |

Direct and Indirect Effects

With Alternative 1, road surfaces, cutslopes, and slide areas would continue to contribute sediment from surface erosion. Elevated sediment yields from road-related surface erosion would be expected to remain at the current level. The risk of high sediment levels from road related failures would continue to be moderate.

All action alternatives would decrease the chronic sediment input into the watershed. Alternatives 2 and 3 reduce sediment input and achieve the project objectives.

All action alternatives have the potential to produce a short-term pulse in sediment during construction. Mitigation measures have been designed in order to reduce or eliminate sediment delivery.

The NEZSED model was not used in this analysis to show how sediment production from the roads will be reduced or to show differences between alternatives because of the small scale of the project and the comparatively low level of chronic sediment.

Cumulative Effects

Alternative 1 may have some associated cumulative effects. In the no action alternative, road related sediment would continue to be delivered to streams, degrading fisheries and aquatics habitat.

There are no expected long-term negative cumulative effects for Alternatives 2 and 3 regarding sediment.

Road/Water Interactions

Field surveys identified impacts from road interactions with watershed functions. Surface erosion, mass wasting, altered hillslope processes, riparian encroachment, and hydrologic connectivity of the road to stream channels was used to define watershed impacts. Both road improvements and decommissioning can reduce these problems, but decommissioning will come closer to completely eliminating the problem.

Direct and Indirect Effects

Alternative 1 would maintain the current water quality. Surface erosion, mass wasting, altered hillslope hydrologic processes, riparian encroachment, and hydrologic connectivity are all impaired. Alternative 1 would do little to restore those processes, which is the purpose of the project. The effect of Alternative 1 would be to maintain the current conditions: chronic erosion, altered water regimes, and risk of mass wasting to streams.

Alternatives 2 and 3 involve work on identified problem areas of roads to be maintained. The site work will decrease chronic sediment input into the streams. Stream crossings would be improved to provide efficient passage of water, aquatic species, and debris. Drainage would be improved at areas of ponding or rutting through the addition of ditches, surfacing, or outsloping the roadway.

Decommissioned roads would help return hillslope water flow paths to a near natural condition through decompaction, outsloping, recontouring, and improved drainage. Roads put back to their natural grade can restore some aspects of hydrologic function.

Under the action alternatives, roads affecting hydrologic function would be recontoured back to a natural grade and slope. The "newly recontoured road prism" would be revegetated and all stream crossings would be put back to natural grade.

As stated above, all action alternatives would reduce chronic erosion and sediment delivery to streams. During construction a short-term pulse in sediment may occur. Mitigation measures have been designed to reduce or eliminate any sediment produced during implementation.

Surface erosion from roads is a common problem presently. Of the 52 road segments considered in the alternatives, 16 have identified surface erosion problems. Alternative 2 addresses five of these segments while Alternative 3 addresses 14 of these road segments.

Mass wasting impacts were noted on 16 road segments. Alternative 2 addresses five of these segments while Alternative 3 addresses 14 of these road segments.

Conditions indicating altered hillslope processes were identified on 19 road segments. Alternative 2 addresses five of these segments while Alternative 3 addresses 17 of these road segments.

Eleven roads were encroaching on the riparian area, or directly affecting the stream channel. Alternative 2 addresses five of these segments while Alternative 3 addresses all 11 of these road segments.

Roads are directly connected to the stream channel on nine road segments. Alternative 2 addresses four of these segments while Alternative 3 addresses eight of these road segments.

Cumulative Effects

Alternative 1 may have some associated cumulative effects. The combination of present road densities and the recent Burnt Flats fire would produce an increased level of sediment, a higher risk of occurrence of mass wasting, and a compounded change in hillslope hydrologic processes. It is likely that this combination would continue to impair aquatic habitat.

Alternatives 2 and 3 are not expected to have any long-term negative cumulative effects regarding aquatic resources. Decreasing chronic sediment input to the watershed would be an improvement for these resources. Reducing road density through decommissioning will move the watershed toward a more naturally functioning system. This can reduce the potential for damaging downstream channel effects.

Water Quality – Toxics

Direct and Indirect Effects

Turbidity and sediment production/delivery are water quality concerns associated with the proposed project. Alternative 1 proposes to take no action on the roads proposed for decommissioning. This alternative affects the water quality of the intermittent streams over the life of the road. Chronic sediment has been identified as an issue and problem in Little White Bird Creek. Alternative 1 does nothing to alleviate erosion, resulting in sediment production and sediment delivery throughout the life of the road.

Alternative 2 and especially Alternative 3 were formulated to reduce sediment delivery, thereby improving the watershed's hydrologic function. Short duration sediment spikes may result from the work done in order to obtain an overall reduced sediment delivery. Mitigation measures have been designed in order to reduce or eliminate this potential.

All action alternatives have the potential risk of introduction of petroleum products into the streams while work is being done. A mitigation measure has been developed to prevent spills and control the handling and storage of petroleum products. This mitigation measure is explained in detail under Mitigation Required for All Action Alternatives. All activities are required to adhere to Federal Soil and Water Conservation Practices and Idaho State Best Management Practices (BMPs), therefore making the risk of petroleum spills/leaks very small.

Cumulative Effects

Alternative 1, no action, would have an associated cumulative effect with sediment production/delivery and turbidity. Chronic sediment delivery would still be an issue, and paired with other sources of chronic sediment, leads to degraded aquatic habitat in the watershed.

Alternatives 2 and 3 would have a beneficial cumulative effect on sediment production/delivery and turbidity. This work would reduce chronic sediment production and delivery. The short pulse in sediment during decommissioning would be offset by mitigation measures listed in the mitigation section. These alternatives are also not expected to have any cumulative effects associated with petroleum spills and leaks, as a mitigation measure has been designed to prevent this event.

Fisheries

Aquatic Species Listed Under the Endangered Species Act (ESA)

The Burnt Flats analysis area includes designated critical habitat for listed steelhead trout and spring/summer chinook salmon. Steelhead trout occur throughout the White Bird watershed, in the mainstem and larger, accessible tributaries. Spring/summer chinook salmon occur in the mainstem of White Bird Creek and in the lower reaches of the North and South Fork White Bird Creeks in very low densities. Bull trout have not been observed in the White Bird Creek drainage. Sockeye salmon and Snake River fall chinook salmon do not use this general area, nor White Bird Creek specifically. More details on their habitat and life history can be found in the fisheries' biologist's report in the project file.

Spring/summer chinook salmon (*Oncorhynchus tshawytscha*) are listed as a threatened species under the Endangered Species Act (Federal Register, Vol. 59, May 22, 1992). Spring/summer chinook salmon spawn and rear in White Bird Creek in variable, but very low numbers. They are present throughout the Salmon basin, using the Salmon River primarily as a migration corridor and larger tributaries for spawning and rearing.

Historically, significant numbers of this species spawned and reared in the White Bird drainage. Currently, adult returns are extremely low, and the species is generally found only in main White Bird Creek and the very lowest reaches of North and South Fork White Bird Creeks.

Steelhead trout (*Oncorhynchus mykiss*) in the Snake River are currently listed as a threatened species under the ESA (Federal Register Vol. 62, No. 159, August 18, 1997). Steelhead trout are currently distributed throughout the Salmon River basin and in most of the major drainages (USDA Forest Service – Nez Perce National Forest, 1999). The Salmon River and all areas within the basin accessible to the species are proposed as critical habitat (Federal Register Vol. 64, No. 24, February 5, 1999).

Adult steelhead trout generally use steeper smaller streams for spawning than chinook salmon. Spawning by this species occurs annually in White Bird Creek and many of its tributaries. Adults migrating to the Salmon River generally enter fresh water in late summer and fall, overwinter in the river, and move into the White Bird watershed in early spring. Spawning usually occurs in April.

In the Burnt Flats analysis area, the following streams are known to support steelhead trout or could potentially support steelhead trout: mainstem White Bird, South Fork White Bird, North Fork White Bird, Little White Bird, and Pinnacle Creeks. The White Bird Creek watershed is considered a historic strong producer of steelhead trout (IDF&G, Unpublished Data 2000).

Sensitive Species

In a letter dated March 12, 1999, the Northern Region Sensitive Species list was updated and includes the following fish species: westslope cutthroat trout and redband rainbow trout on the Nez Perce Forest.

The interior redband trout (*Oncorhynchus mykiss giardneri*) includes not only the listed anadromous steelhead, but also the resident life history form associated with isolated stream reaches inaccessible to steelhead.

Redband trout in the Salmon River are generally classified as the same species as steelhead trout, except they follow a resident life history instead of an anadromous life history. This means they spend their entire lives in a small stream or river, often at or near their natal area. A significant population of redband trout, which has been genetically tested and documented, occurs in Fish Creek, a tributary of the North Fork White Bird Creek. Other populations may exist elsewhere in the watershed but have not been documented.

The upper reaches of Fish Creek, a tributary to the North Fork, are functionally isolated from the rest of the watershed by a series of steep cascades and waterfalls. Upstream migration by anadromous fish or other species of fish is unlikely. The population of redband trout here has probably been isolated from the rest of the watershed for centuries.

Westslope cutthroat trout (*Oncorhynchus clarki lewisi*) are considered a sensitive species by Region 1 of the U.S. Forest Service and a species of special concern by the State of Idaho. Currently, they are not listed or proposed for listing under ESA. In a

letter dated June 10, 1998, the U.S. Fish and Wildlife Service "determined that a petition to list the westslope cutthroat trout...presented substantial information indicating that the requested action may be warranted". Cutthroat trout are widely distributed across the Salmon basin, although the current abundance is likely much less than historic abundance, particularly for the migratory form.

The only documented population in the project area occurs in the Little White Bird drainage. Westslope cutthroat trout have not been documented elsewhere in the White Bird Creek drainage. It is possible they existed historically in the upper reaches of South Fork White Bird Creek, which is currently populated by non-native brook trout.

Fish Habitat: The Forest Plan identified a beneficial use and fish/water quality objectives by prescription watersheds throughout the Forest. The fish/water quality objectives are stated in terms of percent habitat potential and take into consideration the fish species present, and other factors.

Values for the habitat parameters shown below are quantified in a set of desired future condition (DFC) tables. The DFC tables list the specific fish habitat parameter and a value or range that a stream should have in order to be at a given percentage of the streams potential. The DFC values, habitat parameter data, and their relationships are stratified by channel types, stream order, life history stage, and fish species.

Data collected on streams through surveys or monitoring are compared to the channel type and species specific values in the DFCs to assess compliance with fish/water quality objectives for a specific stream as listed in Appendix A of the Nez Perce National Forest Plan. Through analyses, resource specialists can determine if the habitat is at or below objective for a particular species life stage and/or a specific habitat parameter.

Table 6 lists fish habitat potential parameters, which are aggregated into four capability categories. These parameters and categories are used to evaluate fish habitat conditions.

Table 6. Fish Habitat Potential Parameters

| Capability Category | Fish Habitat Parameter |
|----------------------------|---|
| Summer Rearing | Pool quality, instream cover, pool/riffle ratio, maximum summer rearing water temperature |
| Winter Rearing | Cobble embeddedness, pool/riffle ratio, pool quality |
| Spawning | Percent fines, instream cover, pool quality, maximum water spawning temperature |
| Riparian | Potential woody debris, acting woody debris, bank cover, bank stability |

The following is a synopsis of field data analysis of existing fisheries conditions stratified within the drainage based on current fish species distribution. The "Identified Habitat" column displays the species that would be most appropriate to manage for.

Table 7. Field Data Analysis Synopsis

| Stream Habitat Reach Name | Habitat Location (stream mile) | Identified Habitat | Forest Plan Fish / Water Quality Objective | Current Fish / Water Quality Condition |
|-----------------------------|--|---------------------------------------|--|--|
| Main White Bird Creek | Mouth of Chapman Creek upstream to the forks | Chinook | 90% | 65% |
| South Fork White Bird Creek | 0.0 – 5.99 | Chinook | 90% | 68% |
| South Fork White Bird Creek | 5.99 – 10.21 | Steelhead/rainbow westslope cutthroat | 80% | 74% |
| North Fork White Bird Creek | 0.0-5.5 | Chinook | 90% | 64% |
| North Fork White Bird Creek | 5.5-headwaters | Steelhead/rainbow | 80% | 73% |
| Pinnacle Creek | 0-0.75 | Steelhead/resident | 90% | * |
| Little White Bird Creek | 0-0.5 | Steelhead/rainbow | 80% | * |
| Little White Bird Creek | 0.5-headwaters | Westslope cutthroat | 80% | * |
| Jungle Creek | 0-headwaters | resident | 90% | * |
| Cold Springs Creek | 0-headwaters | resident | 90% | * |

* Data from the Reconnaissance Level Stream Survey has not been refined and analyzed at this point in time to calculate Current Fish/Water Quality Condition Values.

Direct Effects

Alternative 1 would have no direct effects on fish habitat. The only potential for direct effects to listed fish species and/or their habitat is for steelhead in the South Fork of White Bird regarding the replacement of the bridge on FSR 642. There could be a risk of sediment entering the stream and impairing spawning or egg and sac-fry development. If conducted between July 1 and August 15, the risk of impacts to spawning fish, incubating eggs, or developing fry will be reduced (see Mitigation Measures Common to All Action Alternatives). There is no other known potential for direct effects to listed fish species and or their habitat as a result of implementing either action alternative. The only potential direct effect to non-listed fish species would be associated with decommissioning roads at stream crossings and at the culvert removal and subsequent crossing improvement on Road 642 at the Little White Bird stream crossing. There is the potential for sediment to enter streams at these sites and disrupt westslope cutthroat trout if present. Standard mitigation standards common to all action alternatives will reduce this risk. The Road 642 stream crossing at Little White Bird Creek will be designed to fully meet Forest Plan Amendment 20 (PACFISH) and will improve fish habitat, fish populations, and stream channel connectivity.

Indirect Effects

Riparian

Under Alternative 1, all existing roads would remain on the landscape, and the riparian areas associated with the stream crossings would remain disrupted. Both action

alternatives remove road templates from the landscape, (Alternative 3 more than Alternative 2), and stream/road crossings will be improved and planted. This will not equate to a measurable improvement to streamside riparian conditions because of the short lengths of riparian habitat improved. Of roads proposed for decommissioning, only Road 221J parallels a stream. Implementation would result in about a mile of improved riparian habitat.

Pools and Sediment

Since most streams in the White Bird drainage are typically high energy Rosgen A and B channel types, sediment transport is efficient and does not impair pool frequency and quality. Thus, neither of the action alternatives is expected to impair pool frequency.

Both action alternatives are likely to generate sediment due to road decommissioning and stream crossing activities. Alternative 1 would not generate any short-term sediment from decommissioning activities, but roads would continue to produce sediment at the current elevated level. Alternative 3 is likely to produce more short-term sediment increases due to a higher reduction of road density. The analysis does not use NEZSED, the Nez Perce National Forest's sediment model. Therefore predictions of sediment generated by the action alternatives reaching streams and being routed through a stream system have not been analyzed. It is known that soil disturbing activities generate sediment that usually results in a two to four year increase in sediment production reflected as a spike in the NEZSED model results. The greater the amount of soil disturbance the greater the overall sediment generated and spike predicted by NEZSED. Also, the greater the amount of soil disturbance, the longer it takes for sediment production to fall below pre-activity levels. Additionally, once the activity has occurred and sediment production levels have stabilized, NEZSED commonly would indicate that the annual sediment yield would be lower than pre-activity sediment production levels. Thus, it is likely that sediment will be generated and some will be delivered to streams. Since NEZSED wasn't used, the estimated volumes cannot be quantified.

FISHSED, a model used by the Nez Perce Forest to predict affects of sediment production on fish habitat is dependent upon NEZSED results. Since NEZSED was not used, FISHSED was not used.

The pulling back of fill slope material in the obliteration process, will result in a short-term loss in vegetation, primarily shrubs, grasses, and forbs which in turn will expose soils as an additional potential sediment source. However, this not expected to have any measurable effects on aquatic fish species.

Water Temperature

Water temperature for summer rearing is the other fish habitat parameter that is regularly not meeting DFC values. The reason for the higher water temperatures recorded for the basin has not ascertained. The basalt environments may be a significant contributor to these conditions. Since sediment is readily transported from Rosgen A and B channel types commonly occurring in the White Bird drainage, sediment production is not expected to further impair water temperature conditions. Since road and stream intersections will be reduced and sites will be planted, some small localized gains in improvements to water temperatures may occur. These are not expected to be of a magnitude to significantly affect overall water temperatures in the drainage.

Although either of the action alternatives may have an impact on any of the eleven previously identified fish habitat parameters, it is unlikely they will have any measurable effects on any single indicator. With the action alternatives, there likely will be short term effects on percent surface fines indicators and cobble embeddedness, but the long term recovery will likely move the existing conditions closer to the Forest Plan Objectives. Short-term increases have the potential to be greater in Alternative 3 due to more road decommissioning, but long-term sediment production will be decreased due to fewer roads on the landscape.

Beneficial effects associated with the action alternatives include restoring the slope to its natural state, revegetating the disturbed area, and improving road /stream crossing sites for improved fish migration therefore reducing stream habitat fragmentation effects associated with the impacts of roads.

Cumulative Effects

The most impactful habitat conditions for fish in this area are interrupted stream habitats. Although there are no identified human-made barriers to fish migration, there are wooden culverts and corrugated metal pipes at road crossings where fish migration is limited or impaired due to improper stream flow conditions. Stream habitat connectivity is imperative to fish migration as it allows existing fish populations to move freely through their habitat without undue stress, and excess energy reserve losses.

Road / stream crossings currently impair stream habitat connectivity and habitat value for local fish species such as westslope cutthroat trout and redband.

From a fisheries resource perspective: over the long-term, the fewer roads on the landscape which are at risk of failing, or serve as chronic sediment sources, the better assured fisheries habitat and native populations are of being maintained in a viable condition. Alternative 1 would not reduce road density or road/stream crossings. Alternative 2 reduces road density and stream/road interactions. Alternative 3 does more than Alternative 2 to reduce the overall road density and stream/road interactions.

Summary

Some fisheries habitat capability categories are not meeting Forest Plan Objectives. The cause has not been determined, but it may be a product of the basalt canyon environment. However, the action alternatives are not expected to measurably influence any of the fish habitat parameters that impaired the capability categories. The action alternatives will more likely benefit fisheries resources by improving migration conditions within the watershed at road / stream crossings and by decreasing the number of native surface road and stream interactions as sources of sediment. Although there are no confirmed fish migration barriers (as a direct or indirect cause of human activity, such as wooden culverts, or culverts) there are some stream / road crossing sites where appropriate treatment would improve fish migration capabilities, and improve stream habitat connectivity. Since Alternative 3 reduces the road density and the number of stream/road interactions the most, it would have the greatest long-term benefits to the fishery resources.

Recreation Uses

The Burnt Flats vicinity provides year-round opportunities for recreationists. Popular activities include; camping, hunting, fishing, hiking, ATV trail/road riding, snowmobiling, cross-country skiing, gathering miscellaneous forest products and site-seeing. Recreation use within the analysis area is considered high. The five-year seasonal average daily traffic (SADT) figure for the Grangeville-Salmon Road (Road 221) at Fish Creek is 150 vehicles per day. A comparison to other areas on the Forest supports the assertion of moderate use. Log haul from multiple timber sales and private inholding access may in part have contributed to the higher levels observed on the Grangeville-Salmon Road. The proximity and easy access to local communities contributes to higher levels of day use visitors. Use of the analysis area to meet the demand for recreational opportunities is likely to increase in the future.

Fall big game hunting (deer, elk, and moose) includes a late season muzzleloader hunt. The area is also popular with cougar and bear hunters in the winter and spring. One area outfitter uses the area for cougar hunting, as do area residents. Transitional areas support populations of upland game birds, especially turkey.

In addition to those uses, ATV use (especially 4-wheelers) appears to be increasing. Trails within and adjacent to the area where ATV use is designated and encouraged includes the Fish Creek Trail, #480 and the Milner Trail, #641. ATV riders also use other primitive or restricted roads. During the winter the Fish Creek trail is groomed for cross-country skiing in cooperation with the State of Idaho under the State's Park-N-Ski program. The Milner Trail also serves as a groomed snowmobile route under agreement with the State of Idaho and Idaho County. Additional roads within and adjacent to the analysis area that are groomed for snowmobiling include; the Grangeville-Salmon (#221), the High Camp Road (#4600), the Cabin Creek Road (#2000), the Twin Cabins Road (#642) and the Free Use Road (#243). Based out of the Fish Creek Snowpark, these roads provide access to over one hundred miles of groomed and un-groomed routes. Many of the un-groomed roads within the analysis area are available and used by snowmobile and ATV enthusiasts. Primitive or restricted roads that are proposed for decommissioning and currently receive ATV or snowmobile use include: 221J, 1112B1, 9301(west) and 9323A.

Direct and Indirect Effects

Alternative 2 would decommission approximately 11 miles of existing road. There are 1.1 miles of road proposed for decommissioning that are designated as "Open" roads and 5 miles of road that have seasonal (C3) or year-round (Y3) restrictions. Road 221J comprises 0.9 of the "Open" road mileage and is currently blocked to vehicle traffic because of resource impacts. Presently, use of the restricted routes proposed for decommissioning, except for 1.5 miles of Road 9301 (west), is considered low (less than 1 average daily traffic [ADT]). Road 9301(west) has an ADT of moderate (1-5). The primary reason for the low use of many of these routes is vegetation growth within the roadway. This alternative would improve access for trail users on 3 miles of road 9301 by decommissioning the roadway to standards that would accommodate all terrain vehicles (ATVs). At least half of this route (9301 east) is currently so overgrown it is difficult to walk along the roadway. There would be 3 miles added to the managed trail system at an annual cost of approximately \$150.

Alternative 3 would decommission approximately fifteen miles of existing road. There is one mile of road proposed for decommissioning that is designated as "Open" road and four miles of road that have seasonal (C3) or year-round (Y3) restrictions. Road 221J comprises 0.9 of the "Open" road mileage and is currently blocked to vehicle traffic because of resource impacts. Presently, use of the restricted routes proposed for decommissioning, except for 1.5 miles of Road 9301 (west), is considered low (less than 1 average daily traffic [ADT]). Road 9301(west) has an ADT of moderate (1-5). The primary reason for the low use of many of these routes is vegetative growth within the roadway. This alternative would fully recontour Road 9301 (west and east) in such a manner to accommodate the movement of livestock. A travel route across the recontoured slope would consist of breaks left in debris scattered across the slope. There would not be increased trail maintenance cost, as no road to trail conversions would occur with this alternative.

Cumulative Effects

There are no expected cumulative effects for Alternative 2 and 3 regarding the existing array of recreation opportunities within the analysis area. Any potential cumulative effects associated with Alternatives 2 and 3 would result from a possible change in the quality of a recreation outing due to the increase in activity during project implementation. Sights, sounds, and encounters with others may impact some forest users. These effects are short term and relative to individuals' sensitivity levels.

Soils

Soils are the biologically active zone at the interface of earth and atmosphere. Soils regulate movement and storage of energy, water, and nutrients. Soil physical properties, such as bulk density and texture, affect water holding capacity, hydrologic response, and surface stability. Some soil disturbances may require hundreds of years for recovery. Surface soil erosion reduces soil productivity. Eroded soil material may be delivered to streams as sediment, affecting water quality and fish habitat.

Road construction produces bare soil surfaces tending to erode on the road surface, ditches, cutslopes, and fillslopes. Revegetation on long, steep fillslopes and cutslopes often has little success. Erosion often continues through the life of the road. Mass failures on the roads in White Bird Creek are not largely prevalent, but have been noted in field inventories. Cutslope and fillslope settling has occurred on many roads.

Road decompaction will improve soil productivity. Tree growth is reduced in compacted soils (Helms et al., 1986). Soils will naturally restore their productivity over many years, but decompaction greatly speeds up the process.

Direct and Indirect Effects

Road densities. Soil productivity losses resulting from soil compaction and risks related to erosion and mass wasting would remain at the present levels under Alternative 1. The present level of impaired hydrologic function due to the high road densities would continue. Reduced soil productivity on compacted, unused roadways would continue to

support a reduced cover of vegetation. The present elevated risk of surface and mass erosion would continue, with increased risk related to the Burnt Flats Fire.

Road related mass failures are found scattered across the White Bird watershed. Failures may range in size and impact from small fillslope slumps to mudslides and debris torrents. Field surveys conducted in 2001 have shown that these types of road failures occur infrequently, however the associated risk of road failures is still present under this alternative. Alternative 1 would continue the same chronic erosion and sediment delivery to fish bearing streams.

Under Alternatives 2 and 3, work would be done on roads to improve drainage and hydrologic functioning. This would be accomplished by removing culverts, pulling back fill, decompacting the roadway, and localized recontouring. Decompaction would improve the hydrologic function of the soil, benefiting moisture regimes and vegetative growth. Recontouring would improve drainage and decrease the risk of erosion. Vegetation treatments would also be done to control surface erosion where needed. Direct effects of this work would be a short-term production of sediment resulting in sporadic releases of small amounts of sediment to the streams during certain phases of work. Sediment produced would be offset by mitigation measures. These measures were described in Chapter Two.

In steeper areas or locations with a higher risk, continuous recontouring of the roadbed would be used to increase benefits. Recontouring would return the road prism back to grade, and reduce the long-term risk for road failures. Vegetation treatments would be used to control surface erosion.

With both action alternatives, there is a small risk that the recontouring work (localized as well as full recontouring) could initiate a slope failure. Using rock, wood, and vegetative buttresses, as well as controlling drainage in specified sites would minimize this risk.

Approximately 11 miles of road would be decommissioned in Alternative 2 and 15 miles in Alternative 3. This would improve soil productivity on about 40 acres for Alternative 2, or 55 acres in Alternative 3.

Road density in the watershed would drop from about 4.25 miles of road per square mile of land to 4.08 in Alternative 2, or 4.01 in Alternative 3. Present road density is high in Goose Creek, Tollgate Creek, and Goodwin Creek watersheds. The project area contains many roads identified in the Roads Analysis as unneeded. Goose Creek is most improved by Alternative 2. In Tollgate Creek, forest road 221J is proposed for decommissioning in both alternatives. In Goodwin Creek, Forest road 76680 is proposed in Alternative 3. Change in these indicators is displayed in Table 9.

Table 9. Soil Impact Indicators

| Watershed | Alternative | Miles of Decommissioned Road | Watershed Road Density (mi/sq.mi) | Estimated Acres decompacted |
|-----------------------------------|-------------|------------------------------------|--|-----------------------------------|
| North Fork Whitebird Creek | 1 | 0.00 | 3.13 | 0.00 |
| | 2 | 0.00 | 3.13 | 0.00 |
| | 3 | 0.62 | 3.09 | 2.25 |
| Goose Creek | 1 | 0.00 | 7.43 | 0.00 |
| | 2 | 5.50 | 6.26 | 20.00 |
| | 3 | 4.05 | 6.56 | 14.73 |
| Fish Creek | 1 | 0.00 | 4.53 | 0.00 |
| | 2 | 0.00 | 4.53 | 0.00 |
| | 3 | 0.00 | 4.53 | 0.00 |
| Tollgate Creek | 1 | 0.00 | 7.00 | 0.00 |
| | 2 | 0.90 | 6.63 | 3.27 |
| | 3 | 0.90 | 6.63 | 3.27 |
| Goodwin Creek | 1 | 0.00 | 7.82 | 0.00 |
| | 2 | 0.00 | 7.82 | 0.00 |
| | 3 | 0.30 | 7.55 | 1.09 |
| Pinnacle Creek | 1 | 0.00 | 1.33 | 0.00 |
| | 2 | 0.00 | 1.33 | 0.00 |
| | 3 | 0.00 | 1.33 | 0.00 |
| South Fork White Bird Creek | 1 | 0.00 | 4.43 | 0.00 |
| | 2 | 4.50 | 4.21 | 16.36 |
| | 3 | 7.54 | 4.06 | 27.42 |
| Little White Bird Creek | 1 | 0.00 | 3.76 | 0.00 |
| | 2 | 0.00 | 3.76 | 0.00 |
| | 3 | 1.50 | 3.48 | 5.45 |
| White Bird Watershed Total | 1 | 0.00 | 4.25 | 0.00 |
| | 2 | 10.90 | 4.08 | 39.63 |
| | 3 | 14.91 | 4.01 | 54.21 |

Note that elsewhere in this document, road density is calculated on a different land area. An example is the wildlife information, which is calculated for the analysis area, rather than by watershed.

Cumulative Effects

Alternative 1 may have a negative cumulative effect when coupled with other erosion events. Chronic sediment would continue to degrade fisheries and aquatic habitat within the watershed.

Alternatives 2 and 3 are not expected to have any negative cumulative effects. Road decommissioning stabilizes roads therefore reducing chronic erosion.

Transportation System

Access to the Burnt Flats area is by one of three principal corridors: 1) via the Grangeville-Salmon road from Grangeville, 2) via the Free Use road from White Bird, or 3) via the 1112 system crossing lands administered by the State of Idaho from White Bird Hill.

There are approximately 140 miles of road in the Burnt Flats area. This comprises an overall road density of approximately 3.6 miles of road per square mile of land area. These roads consist of several gravel surface arterials and collectors (243, 642, 2000) as well as a much larger number of locals. Local roads exist as either gravel surface or native surface roads.

Principal access prescriptions include "open" (25 miles), "W-3" (winter restrictions- 22 miles), and "Y-2" (closed to motorized use- 72 miles). Additionally there are a few miles with seasonal restrictions or vehicle restrictions as well as 5 miles recorded as obliterated.

Roads in the area serve a range of uses. Principal among these are general forest access, recreation trail access, range administration, silvicultural access, fire administration access, winter snow trail opportunities, and summer motorized recreation opportunities.

System trails exist along the South Fork of White Bird Creek, on Pinnacle Ridge, and on Bentz Ridge. Extensive road construction to facilitate logging and mining has occurred over the last sixty years, with little decommissioning. Over the years, roads have received various levels of maintenance and reconstruction. In addition, a number of roads were reconstructed as a part of the Burnt Flats fire suppression efforts.

Road maintenance is an on-going activity occurring in variable amounts annually. Maintenance activities include grading, drainage repair (ditch line and culverts), brushing, and repair of fill and cut slope failures.

The Free Use Road, located along the southern perimeter of the analysis area, and the Grangeville-Salmon Road, along the eastern perimeter, are popular routes for forest visitors. During the winter months, a local group grooms these routes for snowmobile travel.

The road maintenance and snow grooming activities mentioned above would continue into the future.

Direct and Indirect Effects

Roads analysis was conducted in accord with Forest Service Policy and utilized procedures of publication FS-643. Table 11 compares, by road, how the action alternatives respond to overall recommendations from the roads analysis.

Table 11 demonstrates that all action alternatives preserve needed access as identified in the roads analysis. Road management objectives do not change existing access prescriptions other than for the roads to be decommissioned.

Table 11. Roads Analysis – Identified Road Needs

| ROAD NUMBER | Road Analysis Need Identified | Road Analysis Watershed Concern | Alternative 2 Improvement | Alternative 2 Decommission | Alternative 3 Improvement | Alternative 3 Decommission | Comments |
|-------------|-------------------------------|---------------------------------|---------------------------|----------------------------|---------------------------|----------------------------|---|
| 221J | | Y | | X | | X | |
| 243 | Y | | | | | | |
| 243A | Y | Y | X | X | X | X | Decommission last 0.1 mile. Upgrade stream crossings on remainder. |
| 243A1 | | | | X | | | |
| 479 | Y | | X | | | | |
| 479B | Y | Y | | | | | |
| 479B1 | | Y | | | | | |
| 479E | | Y | | | | | |
| 479F | Y | | | | X | | |
| 479G | Y | | | | | | |
| 642 | Y | Y | X | | X | | Improve crossings at Little White bird and South fork White bird. |
| 642A | Y | Y | | | X | | |
| 1112B | | Y | | X | | | |
| 1112B1 | | Y | | X | | X | |
| 1112C | Y | Y | | | X | | |
| 1112C1 | | Y | | X | | | |
| 1112C2 | Y | Y | | | X | | |
| 1112C4 | | | | X | | | |
| 1856 | Y | Y | X | | X | | Improve stream crossings. Recondition road as necessary. |
| 1856B | Y | Y | | | X | | |
| 1856C | Y | | | | | | |
| 1856D | Y | Y | | | X | | |
| 1870 | Y | | X | X | | | Decommissioning is limited to end of road only. Replace aggregate on remainder. |
| 2000 | Y | | | | | | |
| 2000A | Y | | | | | | |
| 2000B | | | | | | | |
| 2000C | | | | | | | |
| 2000D | | | | | | | |

| ROAD NUMBER | Road Analysis Need Identified | Road Analysis Watershed Concern | Alternative 2 Improvement | Alternative 2 Decommission | Alternative 3 Improvement | Alternative 3 Decommission | Comments |
|-------------|-------------------------------|---------------------------------|---------------------------|----------------------------|---------------------------|----------------------------|---|
| 2000E | | | | | | | |
| 9301 | Y | Y | X | X | X | X | Retain middle portion of road on Dentist Parlor ridge. Decommission the east and west segments. Decommissioning prescription to preserve access for range administration. |
| 9301A | Y | | | | | | |
| 9301B | Y | | | | | | |
| 9301C | | | | | | | |
| 9302 | Y | | | | | | |
| 9302A | Y | Y | | | X | | |
| 9323 | Y | | | | | | |
| 9323A | | | | X | | | |
| 9323B | Y | | | | | | |
| 9323C | | Y | | X | | | |
| 9340 | Y | Y | X | | | | |
| 9341 | Y | Y | | X | | X | Decommission last 0.8 mile (approx). Retain remainder of the road. |
| 9419 | Y | Y | | | X | | |
| 9419A | Y | | | | | | |
| 9419B | | | | | | | |
| 9419C | | | | | | | |
| 9419D | Y | | | | | | |
| 9419E | | | | | | | |
| 9439 | Y | | | | | | |
| 9439A | Y | | | | | | |
| 9439B | Y | | | | | | |
| 9439C | | | | | | | |
| 9439D | Y | | | | | | |
| 9443 | | Y | | X | | X | |
| 9347A | | | | X | | | |
| 9347 | | | | X | | | |
| 76254 | | Y | | | | X | |
| 76254A | | Y | | | | X | |
| 76255 | | Y | | | | X | |
| 76255A | | Y | | | | X | |
| 76255A1 | | Y | | | | X | |

| ROAD NUMBER | Road Analysis Need Identified | Road Analysis Watershed Concern | Alternative 2 Improvement | Alternative 2 Decommission | Alternative 3 Improvement | Alternative 3 Decommission | Comments |
|----------------|-------------------------------|---------------------------------|---------------------------|----------------------------|---------------------------|----------------------------|----------|
| 76255A3 | | Y | | | | X | |
| 76255A4 | | Y | | | | X | |
| 76258 | | | | X | | | |
| 76259 | | | | X | | | |
| 76260 | | | | X | | | |
| 76261 | | | | X | | | |
| 76262 | | | | X | | | |
| 76263 | | | | X | | | |
| 76264 | | Y | | X | | | |
| 76402 | | Y | | | | X | |
| 76407 | | Y | | | | X | |
| 76421 | | Y | | | | X | |
| 76424 | | Y | | | | X | |
| 76425 | | Y | | | | X | |
| 76427 | | Y | | | | X | |
| 76675 | Y | | | | | | |
| 76680 | | Y | | | | X | |
| 76738 | | | | X | | | |
| 76739 | | Y | | X | | X | |
| 76740 | | | | X | | | |
| 103174A | | Y | | | | X | |

Cumulative Effects

Either action alternative would reduce the periodic road maintenance costs. The roads proposed for decommissioning currently have a low maintenance level.

Wildlife

The White Bird watershed is home to many species of wildlife. It is predominantly associated with grasslands and xeric forest communities in the lower elevations and mixed conifer forests in the mid and upper elevations.

Alternatives were evaluated for potential effects to listed and proposed species. The effects were measured against the Forest Plan, threatened and endangered species goals, and standards and guidelines.

With respect to the extent of this project and the effects on federally listed species and their habitat, only the gray wolf may be affected. Due to lack of suitable habitat, and/or the lack of confirmed species use in or near the planning area, there are no known or anticipated effects to the bald eagle, grizzly bear, or Canada lynx. This is also the case when combined with past, present, or reasonably foreseeable future actions. These species will not be discussed further. This project would have no effect on the grizzly bear, bald eagle, and lynx.

The gray wolf is listed as a nonessential experimental population in Idaho and is suspected to occur within the planning area. The planning area is part of the Central Idaho gray wolf recovery area. Wolves presently are not known to use the area for denning or rendezvous sites. Because of their wide-ranging abilities, it is possible that a lone wolf could wander across the area. Wolves primarily prey upon animals such as deer, elk, and moose, and are very versatile in their habitat use.

Sensitive species are those plants and animals identified by the Regional Forester for which population viability is a concern. There are 12 sensitive wildlife species currently listed on the Nez Perce National Forest by the Northern Region Regional Forester.

Due to lack of suitable habitat, and the lack of confirmed species use in or near the planning area, there are no known or anticipated effects to peregrine falcon, harlequin duck, Coeur d'Alene salamander, or Northern leopard frog. This is also the case when combined with past, present, or reasonably foreseeable future actions. These species will not be discussed further.

Potential habitat occurs in the planning area for other wildlife species, such as the goshawk, boreal toad, Townsend's big-eared bat, flammulated owl, mountain quail, white-headed and black-backed woodpeckers, fisher, wolverine, and neotropical migratory birds. Only the goshawk, woodpeckers, fisher, wolverine, and some of the neotropical birds have been observed within the planning area.

Management indicator species are monitored during Forest Plan implementation in order to assess the effects of management activities on their populations, and the populations of other species with similar habitat needs that they may represent. Due to lack of suitable habitat, and the lack of confirmed species use in or near the planning area, there are no known or anticipated effects to bighorn sheep. This is also the case when combined with past, present, or reasonably foreseeable future actions. These species will not be discussed further.

The planning area has three Elk habitat effectiveness (EHE) units, of which two are above and one is below their Forest Plan objectives of 25%. The following table shows the list of EHE units, their Forest Plan objective and existing condition.

Table 12. Elk Habitat Effectiveness

| EHE Unit | Forest Plan Objective | Existing Condition |
|----------------|-----------------------|--------------------|
| Pinnacle Creek | 25% | 32% |
| Goose Creek | 25% | 38% |
| Fish Creek | 25% | 24% |

Road densities within the planning area are approximately 3.6 miles per square mile, which is considered to moderate for big game and high for furbearers.

Direct and Indirect Effects

With respect to the extent of this project and the effects to wildlife species, only the gray wolf, fisher, marten, and big game species may be impacted by project activities. This is primarily in relation to changes in road densities, road restriction changes, and noise disturbances. Habitat conditions for many wildlife species would remain intact and those species that are known to occur within the planning area (goshawk, pileated, black-backed woodpecker, fisher, marten, wolf, wolverine, neotropical migratory birds, and big game species) and in the vicinity of project activities may be impacted, especially during the breeding/denning season, by implementation of project activities and noise effects.

Direct and Indirect Effects of the No Action Alternative

Alternative 1 would maintain the existing wildlife habitat conditions and road densities.

Effects common to all action alternatives

Both action alternatives would reduce road densities by a small percent in the watershed. A lower road density would benefit wildlife by reducing the effects of fragmentation caused by road in the planning area. Wildlife security would also be increased. Summer elk habitat effectiveness would not change considerably, since most of the roads designated for decommissioning already have yearlong access restrictions. However, some of these roads are not effectively closed on the ground and the decommissioning of these roads would help to effectively close them. Thus improving security for big game species and other wildlife species.

Alternative 2 reduces total road densities within the planning area from 3.6 to 3.33 miles per square mile and Alternative 3 reduces road densities to 3.22 miles per square mile. So, Alternative 3 would reduce impacts more than Alternative 2.

Recreational activities would remain status quo on roads that are not decommissioned or closed. Noise levels during project implementation, as well as the short-term loss of vegetative cover along some of the roads selected for decommission, may cause short-

term displacement of animals. However, this project is not expected to cumulatively impact wildlife species and in essence would be a long-term beneficial effect.

No loss of habitat or animals on which they prey is anticipated as a result of this project, since work activities are confined to the road prisms. However, minor displacement or disturbance of animals is possible.

Cumulative Effects

As part of this cumulative effects discussion, past activities include: past timber harvest and associated activities, past grazing practices, prescribed and wildland fires, and fire suppression. Of these past activities, fire suppression, succession, and timber harvest (primarily large clear-cuts and road building) are the activities that have impacted and continue to impact wildlife species the most, mainly by causing losses in preferred or suitable habitat. The effects of ongoing activities are relatively minor in terms of their overall impacts to wildlife species. These may include: livestock grazing, firewood gathering, mushroom picking, recreation, as well as Forest Service administered inventories for invasive weeds and watershed condition, planting of burned plantations, fire suppression rehabilitation, and invasive weed treatment.

A variety of noxious weed species, which can displace valuable forage plants and impact herbaceous communities otherwise important to wildlife food chains, are present in the planning area and the watershed, and present additional threats to wildlife habitats.

Given that: 1) proposed activities would occur only along road prisms, 2) roads are not considered suitable habitat for wildlife species, 3) the amount of vegetation loss due to decommissioning or improving roads is negligible, and 4) the availability of potential suitable habitat within the planning area and the watershed, the determination is that the continued viability of wildlife species is not a concern and the potential cumulative effects are negligible. Overall, either action alternative would have a net beneficial effect through the decommissioning of several roads.

Threatened, Endangered, and Sensitive Plants

No documented sightings of any Threatened or Endangered species are recorded in the planning area. Due to lack of suitable habitat, and/or the lack of confirmed species in the vicinity of project activities, there are no known or anticipated effects to MacFarlane's four-o'clock (*Mirabilis marcfarlanei*), water howellia (*Howellia aquatilis*), Ute Ladies' tresses orchid (*Spiranthes diluvialis*), and Spalding's catchfly (*Silene spaldingii*). This is also the case when combined with past, present, or reasonably foreseeable future actions. These species will not be discussed further. Suitable habitat descriptions can be found in the biologist's report in the project file.

Sensitive Species

Potential habitat and/or observations of sensitive plants are known to occur within the planning area and in the vicinity of the roads identified for improvement or decommissioning. Broadfruit mariposa lily (*Calochortus nitidus*), spacious monkeyflower (*Mimulus ampliatus*), and a few botrychiums are the species known to occur here.

Due to lack of suitable habitat, and the lack of confirmed species in the vicinity of project activities, there are no known or anticipated effects to any other sensitive plant species.

This is also the case when combined with past, present, or reasonably foreseeable future actions. These species will not be discussed further.

Broadfruit mariposa

Calochortus nitidus, a regional endemic in west-central Idaho and adjacent Washington, typically occurs in open grasslands on basalt soils. Habitat for this species is associated with grassy ridgelines on the lower sections of both the North Fork and South Fork of White Bird Creeks. However, additional habitat most likely exists in scattered microsites on other rocky ridgelines.

Spacious monkeyflower

Areas of suitable habitat exist in scattered microsites primarily on open ridgelines. Spacious monkeyflower (*Mimulus ampliatus*) habitat generally occurs as moist depressions and seeps within open grasslands.

Botrychium (Moonworts)

Suitable habitat occurs primarily along upper headwater streams for *Botrychium simplex*.

Direct and Indirect Effects

Alternative 1 would maintain the existing habitat conditions for sensitive and rare plant species.

Effects common to all action alternatives

Alternative 3 would disturb less existing habitat and fewer known sensitive plant populations than Alternative 2. As long as project work activities are confined to the road prisms, impacts to sensitive plant species from either action alternative would be minimal. The project activities would not affect habitat quality outside of the road prisms, so population viability is not a concern for these species. Where full recontouring of roads and road improvements overlap with sensitive plant species, appropriate protection measures, including avoidance or changes in design specifications at certain locations, would be implemented. These changes in work activities would maintain current populations.

Cumulative Effects

The most important past, present, and reasonably foreseeable effects impacting most plant species is habitat loss due to noxious weed invasion, timber harvest, grazing, and potentially noxious weed treatment using herbicides. There are no expected cumulative effects from this project regarding sensitive plants since work activities are primarily confined to the road prisms.

Heritage Resources

There exist two (2) previously documented historic properties within the Burnt Flats Watershed Rehabilitation project area. Both sites are prehistoric (Native American) in

nature. These two sites found within the analysis area are considered camping areas. One (1) of these sites is eligible for listing in the National Register of Historic Places (NRHP) and the remaining site needs additional documentation to properly evaluate its NRHP status. There have been five (5) previous archaeological surveys performed within portions of the analysis area. These surveys have led to the identification of the known historic properties in this area. One of the two above-mentioned sites is considered significant and is eligible for listing in the NRHP. The other site is unevaluated regarding its NRHP status, however, it is treated as being eligible until such time it is demonstrated to lack qualities of eligibility. Currently, both of the known sites are located within and adjacent to proposed activity areas. Both of these sites would require being protected or mitigated from effects during project implementation. Consultation with the Nez Perce Tribe and the Idaho State Historic Preservation Office (SHPO) will be completed prior to making a decision on this project.

The alternatives (decommissioning or improving existing road templates) encompass about 40 acres for Alternative 2, the proposed action, or about 51 acres for Alternative 3. Approximately 169 acres within and adjacent to the proposed watershed rehabilitation treatment areas have been archaeologically inventoried. Some additional areas in the vicinity of proposed treatment roads have also been archaeologically surveyed. However, there are roads that have not been surveyed for the presence of cultural resource materials or sites. Most of these occur in low probability areas for the presence of cultural sites or other materials.

The proposed watershed rehabilitation activities across the analysis area have the potential to affect known and as yet unknown historic properties. Protection/mitigation measures have been identified for all sites within proposed activity areas. The protection/mitigation measures are designed to result in a "no effect" or "no adverse effect" to the resource upon implementation of proposed project activities.

Both of the previously documented historic properties have the potential to be affected during project implementation. These sites are both prehistoric in nature. Implementation of a proposed activity, e.g. closing roads/restricting access, may actually have a beneficial effect on historic properties. Site-specific information is not included to maintain the confidentiality of site locations.

Site 10-IH-1291: This site is identified as a prehistoric campsite. The site is eligible for the NRHP. Proposed project activities for this area include road decommissioning. The route would then be maintained as a trail. Water bars may be placed in areas needing improved drainage. Avoidance is the recommended mitigation measure for this site.

10-IH-1748: This site is prehistoric in nature. The site is unevaluated regarding its NRHP status. However, it has been treated as eligible for inclusion in the NRHP when other projects have been proposed in its vicinity. Proposed project activities within or near this site include road decommissioning. Work would be designed to avoid this site. Monitoring may also be required.

Consultation with the Idaho State Historic Preservation Office will be completed prior to a decision in order to confirm the type and amount of mitigation required. If any historic properties are identified during mitigation activities, they will be recorded and appropriate protection measures would be designed. In some cases, no protection measures may be needed.

Direct and Indirect Effects

Analysis of the known historic properties within the Burnt Flats Watershed Rehabilitation project area and the potential effects on those sites through implementation of the proposed action alternative, reveal no foreseeable irreversible or irretrievable effects on these resources pending the implementation of the recommended mitigation measures for those sites listed in the mitigation measures section, item 6.

Cumulative Effects

For those significant historic properties located during future archaeological surveys, mitigation measures would be developed, similar to those above, for the preservation, protection, and potential interpretation/public education for future generations.

Physical, Biological and Social Factors Not Analyzed in Detail

The following resources would not be affected by implementation of the proposed action or any alternatives to the proposed action and were not considered further in this analysis.

Air Quality

Immeasurable amounts of dust may be generated for short periods of time throughout the duration of the project.

Biological Diversity

Biological diversity would not be affected because of the project's small size. Abundance and existence of species would not change due to project implementation. Road decommissioning benefits wildlife and terrestrial species.

Climate

The climate of the local area is described in the Nez Perce Forest Plan Final Environmental Impact Statement (pp. III-2, 3). Implementing any of the alternatives would have no effect on the local climate regime.

Facilities

There are no building facilities in the proposed project area.

Fire and Fuels

Due to the scope of this project, fire and fuels resources would not be affected. The roads proposed for decommissioning are not needed for fire suppression engines.

Forest Health

Forest health would be unaffected by the proposed project because road decommissioning is not detrimental to forest health. It benefits forest health by restoring hydrologic function and soil productivity.

Fuelwood

The proposed project does not affect fuel wood cutting. Roads slated for decommissioning are presently not accessible to highway vehicles.

Lands

Private inholdings within the White Bird watershed would not be affected by the proposed project because they lie outside of the work areas.

Minerals

The activities proposed would have no effect on subsurface minerals, mineral rights, or future ability to extract minerals.

Old Growth

Old growth would not be impacted by project activities.

Public Health and Safety

This project poses no threat to the health and safety of the public.

Research Natural Areas

There are no research and natural areas within the project area.

Roadless Areas

No RARE II roadless areas occur within or in close proximity to the analysis area.

Social and Economic

The project has been scoped by the public and no issues have been raised about detrimental effects to the social and economic aspects in the project area.

Timber

Roads proposed for decommissioning would not be needed for future timber harvests.

Trails

No changes to any trail are proposed with either action alternative. Alternative 2 proposes to add about 5 miles to the trail system.

Wild and Scenic Rivers

White Bird Creek is identified as eligible for consideration for recreation designation under the Wild and Scenic Rivers Act from the confluence of Blacktail Creek to the confluence with the Salmon River. No activities related to this project are being considered within ¼ mile of this potential recreation river corridor.

Wilderness

No designated wilderness, proposed wilderness, or study areas occur within or in close proximity to the analysis area.

CONSULTATION AND COORDINATION

The Forest Service consulted the following individuals, Federal, state and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

ID Team Members:

Kris Hazelbaker, IDT leader
Jim Paradiso, hydrologist
Joe Bonn, engineer
John Fantini, recreation specialist
Don Sorenson, range conservationist
Joanne Bonn, wildlife biologist
Garry Seloske, fisheries biologist
Kim Munson, biological technician
Steve Armstrong, archeologist
Sam Martin, GIS specialist

Federal, State, and Local Agencies:

State of Idaho, Department of Environmental Quality
State of Idaho, Department of Parks and Recreation
National Marine Fisheries Service
Fish and Wildlife Service

Tribes:

Nez Perce Tribe

Others:

Snowdrifters - snowmobile club
Pathfinders - motorized trail users
High Mountain Trail Machine Association - motorized trail users
Heckman Ranches - grazing permittee

See mailing list in project file for additional contacts.

REFERENCES

Clearwater Biostudies, Inc., 2001. Stream Conditions and Salmonid Abundance within the White Bird Creek Study Area during summer 2001.

Furniss, M. J.; Flanagan S. A.; McFadin B. May 2000. Hydrologically-Connected Roads: An Indicator of the Influence of Roads on Chronic Sedimentation, Surface Water Hydrology, and Exposure to Toxic Chemicals. Stream Notes, Stream Systems Technology Center, Rocky Mountain Research Station, Fort Collins, CO.

Gerhardt, Nick. Nez Perce National Forest Hydrologist. Personal communication.

Gordon, N.D., T.A. McMahon, and B.L. Finlayson. 1992. *Stream Hydrology: an introduction for ecologists*. John Wiley & Sons, Inc. New York, N.Y. 521 pages.

Helms, J.A., C. Hipkin, and E. B. Alexander. 1996. "Effects of Soil Compaction on Height Growth of a California Ponderosa Pine Plantation". *Western Journal of Applied Forestry* 1(4) 104-106.

Idaho Department of Fish and Game. "Idaho Conservation Data Center." <http://www.state.id.us/fishgame/cdchome.htm> (15, November, 2000).

Idaho Department of Fish and Game, 2000. Unpublished Data – Personal communications Tim Cochnaur, Clearwater Region, Lewiston, Idaho.

Luce, C. H. and T. W. Cundy, 1994. Parameter Identification for a Runoff Model for Forest Roads. *Water Resources Research* 4; pp.1057-1069.

Mays, Dave. Red River District Fisheries Biologist. Personal communication.

Megahan, W.F., 1972. Subsurface Flow Interception by a Logging Road in Mountains of Central Idaho. National Symposium on Watersheds in Transition, American Water Resources Association and Colorado State University. Pp. 350-356.

Reid, L.M. and Dunne, T., 1984. Sediment Production from Road Surfaces. *Water Resources Research* 20: 1753-1761.

State of Idaho Division of Environmental Quality. 1998 303(d) List.

Sullivan, K. O. and S. H. Duncan, 1981. Sediment Yield from Road Surfaces in Response to Truck Traffic and Rainfall. Weyerhaeuser Research Report, Western Forestry Research Center. Centralia, Washington. 46 pp.

Wemple, B.C.; Jones, J.; Grant, G. 1996. Channel network extension by logging roads in two basins, western Cascades, Oregon. *Water Resources Bulletin* 32(6): 1195-1207.

USDA Forest Service – Clearwater National Forest, 1999. 1999 Clearwater National Forest Watershed Restoration Monitoring Results (Road Obliteration).

USDA Forest Service - Nez Perce National Forest, 1996. Basinwide Survey Methodology. (Last revised June 26, 1996).

USDA Forest Service – Nez Perce National Forest, 1999. Biological Assessment and Evaluation of Ongoing and Proposed Forest Service Activities. Idaho County, ID.

USDA Forest Service – Nez Perce National Forest, 2002. Burnt Flats Salvage Environmental Assessment, Project File. Idaho County, ID.

USDA Forest Service – Nez Perce National Forest, 1998. South Fork Clearwater River Landscape Assessment, Volume I & II. Idaho County, ID.

USDA Forest Service – Nez Perce National Forest, 1999. Biological Assessment and Evaluation of Ongoing and Proposed Forest Service Activities. Idaho County, ID.

